Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Summary Minutes

Nineteenth Meeting of the Advisory Board on Radiation and Worker Health

December 9-10, 2003

Meeting Held at the Westin Casuarina
Las Vegas, Nevada

Executive Summary

The Nineteenth Meeting of the Advisory Board on Radiation and Worker Health (ABRWH or the Board) was held at the Westin Casuarina Hotel in Las Vegas, Nevada on December 9-10, 2003. All members were in attendance. Others in attendance included staff of various Federal agencies, as well as members of the public. The Summary Minutes of Meeting Eighteen were approved with minor changes.

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Tuesday, December 9, 2003

OCAS Program Status Report

Ms. Chris Ellison of the National Institute for Occupational Safety and Health (NIOSH) announced that since commencement of the program in October of 2001, the Department of Labor (DOL) had forwarded NIOSH a total of 14,895 cases for dose reconstruction. Of that number, 13,563 are active cases currently in process.

Requests to the Department of Energy (DOE) for exposure information total 14,041. Requests outside of the response time goal of 60 days range from 132 past 60 days to 64 past 150 days.

Appointment of an additional 36 physicians to the DOE physician panels raises the total to 159. NIOSH reached a milestone of 1,000 completed dose reconstructions returned to the DOL. New documents posted on the web site include the Atomic Weapon Employer (AWE) and DOE site-wide documents; completed site profiles for Hanford and the Huntington Pilot Plant, and Technical Basis Documents (TBDs) for Idaho National Engineering Laboratory (INEEL), Portsmouth, X-10, and Y-12.

Following her presentation, **Ms. Ellison** entertained questions from the Board.

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DOL Program Status Report

Mr. Jeff Kotsch presented the DOL's program status report. The majority of the 49,113 claims are for cancer. Final decision had been issued in 53.3 percent of the cases.

As of November 27, 2003, a total of $700,474,957 has been paid in compensation. DOL is continuing to surpass its stated goals for claims processing times. NIOSH has returned 902 completed dose reconstructions and 154 cases where reconstruction was not required.

Mr. Kotsch advised the Board that Mr. Pete Turcic would present an overview of the DOL outreach plan at the next scheduled meeting.

Mr. Kotsch answered questions from the Board following his presentation.

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Site Profile Update

Mr. Stuart Hinnefeld updated the Board on progress in site profile and TBD development. He announced completion of two DOE sites, Savannah River Site and Hanford. A meeting was held at the Savannah River Site in November and one is scheduled for Hanford in January to review the completed documents with union representatives and other interested parties.

TBDs, or site profile chapters, have been completed on INEEL, Oak Ridge National Laboratory, and Portsmouth Gaseous Diffusion Plant (GDP). Technical Information Bulletins (TIBs) that describe dose reconstruction approaches for DOE complex-wide and complex-wide uranium AWE facilities have also been completed.

Mr. Hinnefeld described the structure of the complex-wide documents and described the approaches followed in the complex-wide regimen for dose reconstruction. These documents were devised as an efficiency measure for use with a limited set of claimants.

Mr. Hinnefeld responded to questions from the Board following his presentation.

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Update on the IMBA Program

Mr. David Allen provided a history of the development of the Integrated Modules for Bioassay Analysis (IMBA), describing its versions and how it had evolved to the system used for this program's dose reconstructions.

A presentation was made of screen shots to describe how the program operated and the options provided through user input.

Following his presentation, **Mr. Allen** answered questions from the Board.

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Report from Workgroup on Options for Evaluating Claimant Interviews

Dr. James Melius led the Board in a discussion of a recommendation by the workgroup which assures a record suitable for review be maintained and that NIOSH evaluate the interview portion to determine if improvements are needed.

After extensive debate and input from all the Board members, and following minor editorial revisions to the document provided from the workgroup, the recommendation was voted on and approved unanimously.

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Public Comment Period

Public comment was solicited on both days of the meeting. Public input on the first day included the following:

- Difficulty in matching employment records when a claimant worked at two facilities.
- The problems in dose reconstruction for construction worker claimants.
- Objections to and flaws in completed site profiles.

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Wednesday, December 10, 2003

Board Discussion

With the opening agenda item being an introductory presentation by Sanford Cohen & Associates, **Mr. Mark Griffon** inquired into questioning options following the presentation.

Ms. Martha DiMuzio and **Mr. Larry Elliott** explained the necessary restraints due to the status of the contract, generally describing what could be done prior to the Executive Session and what would have to be reserved until that time.

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Introduction to Sanford Cohen & Associates

Dr. John Mauro provided an introduction to the structure of the company, its history, personnel, and clientele. He presented an organizational chart of the project, demonstrating key personnel involved in the task order proposals.

Dr. Mauro described how their corporate structure provided expertise in every area of the tasks against which they were offering their proposals. He briefly outlined the company's approach to the project and described the four tasks contained in the task order.

Following his presentation, **Dr. Mauro** entertained questions from the Board.

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Board Working Session

Review and Approval of Draft Minutes

A motion to approve the Executive Summary and Minutes of the Eighteenth meeting, as modified, was seconded and unanimously passed.

Mr. Larry Elliott called for a sense of the Board as to detail of the minutes in their present style or if modification was desired. After discussion, it was determined that the Board was satisfied with the current level of detail.

Dr. Paul Ziemer asked if the Board cared to discuss an earlier proposal for development of a subcommittee to handle ongoing issues with the contractor.

The issue was debated from the standpoint of time saved, availability of members for meetings on short notice, specificity of charge, and authority to be granted. Following discussion of procedures necessary for establishment and length of time involved, **Dr. Ziemer** ruled they would continue to operate as a committee of the whole for now.

Administrative/Housekeeping

Ms. Cori Homer addressed a variety of housekeeping matters, including detailed information for those participating in the trip to the Test Site the following day.

It was decided that the Board would meet January 15 in Cincinnati if the afternoon Executive Session proved such to be necessary.

Possibility of a Savannah River Site tour during the February meeting in Augusta was discussed. Evening hours for public comment was discussed, along with ideas for better distribution of meeting information to local claimants. Future agenda items were proposed. **Dr. Ziemer** reminded the Board that he and **Mr. Elliott** developed the agenda jointly, and any ideas that came to mind later could be relayed to either of them.

Board training on the IMBA program was discussed, with **Mr. Elliott** offering training any time a Board member happened to be in Cincinnati.

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Public Comment Period

Public comment was solicited on both days. Public input on the second day included the following.

- Questions about discovery of new Mallinckrodt documents in Georgia.
- Estimated time of completion of site profiles for other facilities in the St. Louis area.
- Status of interviews with St. Louis employees.
- Whether Sanford Cohen & Associates could review an off-site exposure issue in St. Louis.
- Accuracy of coworker data and site profile extrapolation in the absence of data.
- An invitation for the Board to meet in western New York.
- Various policy issues the Board may address in the future.
- Flaws in the Blockson Chemical site profile.
- Conflict of interest issues.

With all further business to come before the Board requiring action in Executive Session, the public portion of the meeting was adjourned.

End of Executive Summary

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Tuesday, December 9, 2003

OPENING REMARKS

Dr. Paul Ziemer, Chairman of the Advisory Board on Radiation and Worker Health (ABRWH or the Board), called the meeting to order, welcoming the attendees.

Dr. Ziemer asked that everyone register their attendance in the book provided. He instructed members of the public to sign up if they wished to address the Board during the public comment period.

Noting that perhaps all members of the Board had not had an opportunity to review the minutes, **Dr. Ziemer** suggested the members do so over the evening and to defer approval until the following day. The members agreed.

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OCAS PROGRAM STATUS REPORT

Ms. Chris Ellison
NIOSH/OCAS

Ms. Ellison presented a program status update from the NIOSH/OCAS perspective. Since commencement in October 2001 the Department of Labor (DOL) had forwarded for dose reconstruction a total of 14,895 cases by December 5, 2003. Atomic Weapons Employer (AWE) employees accounted for 2,090 of the cases, with the balance being the Departmentof Energy (DOE) employees. Of those, 13,563 are active cases currently in process. The number of cases received from DOL is continuing to decline, but still average slightly over 200 per month.

Requests to DOE for exposure information to date total 14,041 covering 12,704 cases. Responses received total 21,951, covering 11,461 cases. Requests and responses are always unequal, due to multiple requests being made if a claimant worked at multiple sites, as well as responses often being sent in parts.

DOE is asked to respond to requests within 60 days. To date 132 requests are past 60 days, 116 past 90 days, 77 past 120 days, and 64 past 150 days. These numbers are improving, indicating that

continued meetings between NIOSH and DOE are working. **Ms. Ellison** reminded the Board that the DOE had to get their programs up and running in order to provide the information, so they are responding to the requests.

The NIOSH subcontractor, Oak Ridge Associated Universities (ORAU), is operating at a claimant interview capacity of 200 to 300 per week. At least one interview has been completed in a total of 8,954 cases. Approximately 11,500 interview summary reports have been sent to claimants.

Previous updates have included a category called "cases initiated," which has now been divided into two parts, the first being cases staged for dose reconstruction. **Ms. Ellison** explained this new description as an indication that interviews have been conducted and information to do the dose reconstruction has been received. The claimant has been informed of that and, if applicable, that a site profile has been completed for their site. The case is ready for assignment to a health physicist for dose reconstruction. Those cases now number approximately 2,700. The second part is number of cases assigned to a health physicist who is currently working on the dose reconstruction. That number is now 631 cases.

Roughly 250 draft dose reconstruction reports have been sent to claimants for their review and comment and/or execution of the OCAS-1 form, followed by a close-out interview with ORAU. Following claimant's return of the OCAS-1 form, the final dose reconstruction report for the case is sent to DOL with a copy to DOE. These now number 1,045, according to information **Ms. Ellison** had learned in a phone call earlier in the day.

To date OCAS has logged just under 26,000 phone calls, ORAU just over 53,000. **Ms. Ellison** noted that OCAS takes claimant calls, but ORAU schedules the telephone interviews and each attempt to contact a claimant is included in their total. OCAS' public health advisors have indicated their calls have diminished since the advent of the quarterly activity report, declining by about 600 per month. Receipt of e-mails within the system has been fairly consistent, now totaling some 2,400.

Ms. Ellison enumerated recent NIOSH accomplishments including appointment of 36 additional physicians to the DOE physician panels, bringing that total to 159; release of the residual contamination final report; the milestone of 1,000 final dose reconstructions having been forwarded to DOL for adjudication; and a number of new documents posted on the web site. These include the AWE and DOE site-wide documents, as well as completed site profiles for Hanford and the Huntington Pilot Plant. Technical Basis Documents (TBDs), or chapters within a completed site profile, have been posted for Idaho National Engineering Laboratory (INEEL), Portsmouth Gaseous Diffusion Plant, X-10, and Y-12.

Ms. Ellison informed the Board that NIOSH Director Dr. John Howard had made a request to be able to visualize where the cases currently in-house are in the process specifically, which has led to development of a flow chart. The plan is to post the flow chart on the web site, and **Ms. Ellison** indicated she would send the Board members screen shots as it got further along prior to its posting. Information is broken into the four district offices and is being designed to show the public how many of the 14,000-plus cases are waiting on exposure information, how many are at the interview stage, et cetera.

Discussion Points

- D**r. Paul Ziemer** asked for clarification between the number given for interview summary reports sent to claimants and cases where one or more interview has been conducted. **Ms. Ellison** explained that with many cases there are multiple survivors, each of whom has an opportunity to participate. There are more claimants than cases.
- **Dr. Ziemer** further inquired whether the number of draft reports shown is a current number. **Ms. Ellison** responded that is the number of reports awaiting return of the OCAS-1 form.
- **Mr. Robert Presley** wondered if DOE had given an explanation for why Savannah River, Idaho, and Los Alamos have so many requests more than 150 days old. **Ms. Ellison** replied that those sites had been setting up their systems. They are maintaining a constant level now. Specific cases being waited on have been identified and they are working on them.

- **Dr. James Melius** asked if the number was diminishing, and if the problem with the Iowa site, which wasn't listed, had been resolved. **Ms. Ellison** indicated that the monthly report to DOE indicates the cases they're waiting on information for, and DOE is required to respond if no information can be found. That response has not been received in the cases shown.
- **Mr. Larry Elliott** added that a small number of the old cases was a static number and NIOSH is working on those cases with the sites to understand better what the problem is. In some cases they're having difficulty verifying employment, that verification having been provided to DOL by Internal Revenue Service or Social Security records. The majority of the cases change, however. The ORAU team provided assistance to Idaho in scanning and indexing thousands of boxes of records so that dose histories could be retrieved. That has now been completed. As for the Iowa plant, five or six boxes of records held by Department of Defense have been received and are now in the hands of the TBD team members to go through that information. Each situation is being addressed independently.
- **Mr. Mark Griffon** inquired as to how many interviewers were being used to conduct the 200 to 300 weekly interviews, and if interviewers familiar with a specific site were being grouped with claimants from that site. **Dr. Richard Toohey** of ORAU responded that there are a total of 16 interviewers, with the average working per day at 12 to 14. While the goal has been to have site-specific interviewers, the process is still operating in what they refer to as a batch mode and that is not being done presently.
- **Mr. Griffon** further inquired if the number of information requests to DOE included information to be used for site profiles. **Mr. Elliott** indicated the number represented requests for personal dose information only, noting requests to DOE for site profile information are tracked in a separate system.
- **Dr. Antonio Andrade** commented that it should be remembered that dosimetry records are both difficult to understand and to provide in an appropriate format for dose reconstruction. Dose was recorded in a variety of ways, as well as now merging dose from multiple sites. Sending dose records for one person back quickly is not an easy process. **Mr. Elliott** noted that requests were for raw numbers, which also added to the difficulty of providing a response.

- **Dr. Roy DeHart** asked what kind of response was being received from claimants on the final reports being forwarded to DOL for adjudication. **Mr. Elliott** noted that the point at which they received response from the claimant was when the draft report was sent to them with the OCAS-1 form for signature. Those comments run the gamut from a thank you to disagreement with the report to things which have no bearing on the case at all, all of which is captured and tracked in the administrative record. The majority are simply signed and returned. Claimants are notified when the final report is forwarded to DOL and there is no further commentary from NIOSH.
- **Dr. Melius** commented he didn't think most people cared about the district offices shown on the flow chart and asked if it could be broken down by site. He also suggested a screen with numbers and stages in table form by site listed down the left-hand side. **Ms. Ellison** replied that this is a presentation being worked on and that such comments were appreciated.
- D**r. Henry Anderson** suggested that it was difficult to keep up with whether or not the backlog is being diminished or if it continues to grow. **Ms. Ellison** replied she would send shots of the various screens for further comment and review.

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DEPARTMENT OF LABOR STATUS REPORT

Mr. Jeff Kotsch,
Department of Labor

Mr. Jeff Kotsch updated the Board on the number of claims, 49,113, with a breakout of claim types. The majority of claims, 33,766, are for cancer, with smaller numbers for other conditions covered under the statute. More than 24,000 claims have been received for conditions not covered under the statute, but which are included in the claim total.

Mr. Kotsch explained that there is a case for every employee; if the employee is living, he/she is the claimant. In the case of survivors, multiple claims may be involved in a single case.

Mr. Kotsch noted that of the 37,192 cases, a final decision had been issued in 19,835 cases, or 53.3 percent of the cases received. Those cases constitute 25,053 claims, 10,729 of which received approval, with 14,324 claims being denied.

Initial or recommended decisions have been reached in 21,396 cases. These cases are represented by 27,701 claims, of which 11,177 recommendations were for approval and 16,524 recommendations were for denial. A total of 14,838 cases have been sent to NIOSH for dose reconstruction. The initial process has thus been completed for 95.7 percent of the cases received.

As of November 27, 2003, a total of 9,483 payments have been issued. The amount of compensation paid totals $700,474,957, with medical benefits of $21,205,814 having been paid.

Mr. Kotsch indicated the DOL is continuing to surpass its stated goals for initial claims processing times. The average 180-day goal for processing AWE, beryllium vendor, and DOE subcontractor claims is being accomplished in 103.5 days. The average 120-day goal for DOE/RECA claims processing is being accomplished in 75.8 days.

Of the 14,838 cases referred to NIOSH for dose reconstruction, 1,146 have been returned. There were 902 completed dose reconstructions and 154 cases where dose reconstruction was not required. There were recommended decisions on 863 of the cases, 321 for acceptance and 542 for denial. Final decisions have been made on 478 of those cases, 254 accepted and 224 denied.

Mr. Kotsch commented that at the previous meeting he had been asked about outreach activities. He advised the Board that the issue had been discussed with Mr. Turcic, who is developing an overview he intends to present at the next meeting.

Discussion Points

- **Dr. Paul Ziemer** inquired whether specific numbers were available on Special Exposure Cohort (SEC) cases which had been processed. **Mr. Kotsch** replied that case numbers were outside his area of responsibility and he could not recall the statistics he'd seen.

Dr. Ziemer suggested it might be of interest to the Board to hear those numbers at the next meeting.

- **Mr. Leon Owens** asked if the time for initial claims processing included time for DOE to do records retrieval. **Mr. Kotsch** indicated it included time to get an answer back relative to employment. He noted that if a response is not forthcoming in a timely manner, other mechanisms such as Social Security are used to confirm employment, adding that DOL tries to get a DOE response that there are no records before alternative verification is used.
- **Dr. Antonio Andrade** asked for the time period between initial decision and the case being sent to NIOSH, as well as the method by which the case was forwarded. **Mr. Kotsch** replied that once the information on employment and medical condition has been developed, it is transferred to NIOSH as a hard copy. The possibility of digital transfer has been examined.
- **Dr. James Melius** commented that at some point, once the SEC regulations are finalized, the issue of overlap of claims from SEC sites which don't meet the SEC time criteria will have to be dealt with. **Dr. Ziemer** inquired if Dr. Melius were asking about those who may have submitted a claim although they didn't meet the time requirement. **Dr. Melius** responded that he believed knowing the numbers involved would help deal with the issue once the SEC regulations are out. **Mr. Larry Elliott** confirmed that **Dr. Melius** was asking for the numbers of cases submitted which didn't qualify under the SEC, and indicated that those cases came to NIOSH for dose reconstruction. **Dr. Melius** responded there was an issue of how those dose reconstructions would be done. **Mr. Elliott** replied that they were being done and that several cases for Portsmouth GDP, Paducah GDP, and K-25 had already been returned to DOL. **Dr. Melius** opined the issue needed to be looked at.
- **Dr. Genevieve Roessler** expressed surprise that the medical benefits paid were such a small fraction of the total compensation and inquired into the reason. **Mr. Kotsch** indicated that of course survivor claims were not for medical payments. But early on there were problems with health care providers not wanting to deal directly with DOL, and DOL didn't want the employees to have to be reimbursed for payments. There were some things that had needed to be adjusted in order to move forward, but agreed the numbers are lower than expected.

- **Dr. Henry Anderson** observed that there appeared to be a number of cases where medical records were insufficient, and wondered what other sorts of things were insufficient and what could be done when a claimant has a condition which records can't document. **Mr. Kotsch** replied it was indeed difficult to find or help the claimant find medical evidence to substantiate a claim, but all that can be done is ask for affidavits from physicians, et cetera, of perhaps their recollections of having treated the claimant. **Mr. Kotsch** also noted it was amazing that, even though they'd been destroyed by the hospitals, sometimes people had kept their own records.
- **Dr. Paul Ziemer** inquired into the numbers of appeals to both NIOSH cases and those which had not required dose reconstruction. **Mr. Kotsch** indicated he was the focal point for technical objections to NIOSH dose reconstructions and had, since the beginning, seen perhaps 25 technical appeals to the NIOSH process. As for overall objections to denials for all other things and not just NIOSH cases, they would be higher and could be presented at the next meeting. **Dr. Ziemer** indicated he was interested in the appeals to the final decisions and suggested perhaps someone could supply that information.
- **Dr. Roy DeHart** commented that, as a member of the physicians panel reviewing Subtitle D cases, they have seen cases with no medical documentation at all, no diagnosis, no treatment or management. Those are typically survivor claims and the relative has little or no knowledge of even the doctor or hospital, and there's no way to move forward with that lack of information. **Mr. Kotsch** acknowledged that the same is seen in Subtitle B cases.

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SITE PROFILE UPDATES

Mr. Stuart Hinnefeld
NIOSH

Mr. Stuart Hinnefeld provided the Board with an update on progress in TBD and site profile development since Dr. Neton's presentation in October. He reiterated the purpose of the documents was to support

dose reconstructors by providing site-specific information, helping minimize interpretation of data. The documents help provide consistency and are used much like a handbook. They are dynamic documents, the information in them to be modified as more is learned about various sites, their technologies and approaches.

All completed TBDs, or pieces of a site profile, are being published as they are approved and may be viewed on the web page. Comments are encouraged and can be made to the NIOSH Docket Office. On the web site are easy-to-identify links to the docket for a particular document. **Mr. Hinnefeld** provided information on how to comment via mail, telephone, FAX, and e-mail.

Presentations are being arranged with union representatives and other interested parties to solicit input as each document is completed. A meeting was held at the Savannah River Site in November, and arrangements have been made to visit Hanford in January. Information on members of the teams who compiled the initial versions of the site profiles is available on the ORAU web site.

Unchanged since October are the 15 DOE facility TBDs under development in parallel, with targeted completion still by end of the calendar year. Many of those documents have been reviewed and are in comment resolution, very close to being approved. Completion of those documents will provide the ability to address approximately 77 percent of the claims currently pending at NIOSH.

Mr. Hinnefeld indicated that as of November 24, 2003, the site profiles for two DOE sites, Savannah River Site and Hanford, are complete. Noting that site profiles consist of five TBDs and an introduction, **Mr. Hinnefeld** indicated that one of five TBDs had been completed for the Idaho National Engineering and Environmental Laboratory facility, the Oak Ridge National Laboratory facility, and the Portsmouth GDP. Three of the five parts have been approved for the Y-12 plant. The document relative to a DOE complex-wide approach is also complete.

Site profiles are complete on four AWE facilities, Bethlehem Steel, Blockson Chemical, Huntington Pilot Plant, and Mallinckrodt Chemical Co., as well as complex-wide uranium AWE facilities.

Specifically addressing the TBDs making up the site profile for the

Nevada Test Site, **Mr. Hinnefeld** noted the TBDs relative to occupational medical X-ray, internal, and environmental exposures are in review and comment resolution. The section on external dosimetry is in contractor review. The final section or introduction is a summary of the information in the other five sections.

A complex-wide TBD was completed for a limited set of AWEs that met certain conditions. Their AWE work had to be limited to uranium. If any other radionuclides were associated with their work at a particular site, claims from that site could not be processed through the complex-wide approach. They would be expected to have a fairly limited scope of work. The AWE complex-wide approach takes very high potential exposures and assumes that even under specific worst-case conditions for a certain set of cancers, the claims won't be compensable, and allows some processing of some AWE site claims.

The complex-wide process is an efficiency process following the regulations statement that if a dose reconstruction is done under worst-case assumptions and it is clear the probability of causation would not exceed 50 percent, the cases can be considered complete. In such cases, where the probability of causation will not rise to the 50 percent level, worst-case assumptions can be used to complete dose reconstructions and provide answers to claimants who may have been waiting for quite some time for an answer to their compensation claim. With that in mind, there is a population of claims that it would appear would fall into the category where worst-case assumptions can be made.

Mr. Hinnefeld indicated that the complex-wide approach is structured in four documents called Technical Information Bulletins (TIBs). They address the four major types of exposure found in a site profile. Not described are facility and processes, one section in a full site profile, as well as the introduction to the site profile.

The TIBs are specifically entitled "Maximum Internal Dose Estimates for Certain DOE Complex Claims," "Standard Complex-wide Conversion/Correction factor for Overestimating External Doses Measured with Thermoluminescent Dosimeters," "Dose Reconstruction from Occupationally-related Diagnostic X-ray Procedures," and "Occupational Dose from Elevated Ambient Levels of External Radiation," often referred to as environmental dose.

Mr. Hinnefeld then described the approaches followed in the complex-wide regimen for dose reconstruction. The case selection criteria limit the applicability of this regimen to more recent employment. Certain assumptions are made which would not apply to very early work, so the approach is applicable primarily from 1970 or 1980 forward.

Maximizing factors are applied to recorded doses and missed doses in order to provide confidence that the worst case a person may have been exposed to has been captured. Maximum credible undetected intakes are used to evaluate a worst-case assumption for an internal dose. Parameters are chosen that maximize probability of causation by maximizing the dose and by selection of the radiation types and photon energy types.

Mr. Hinnefeld reiterated that the complex-wide approach is for a limited set of claims and to facilitate the ability to provide timely answers to claimants.

NIOSH is engaged in processes to identify populations of workers to provide input in the preparation of TBDs or for documents nearing completion; and further, after completion of the TBDs, to provide comments to see if there is a need to provide additional information or modify the document. The meeting at the Savannah River Site in November and at Hanford in January, as well as the Docket Office link on the web site, are but two information-gathering approaches. Others are being looked into, including workers' monitoring programs.

Discussion Points

- **Dr. Paul Ziemer** asked if someone could inform the Board of the response at the Savannah River Site meeting in terms of input from people on the site. **Mr. Hinnefeld** indicated that he only knew what he had been told, but his understanding was that at the end of the meeting the participants who spoke were appreciative and thought it had been done well. **Dr. Ziemer** inquired as to the size of the turnout. **Mr. Hinnefeld** noted it was not a public meeting, but included eight to ten individuals who had been identified as contact points.
- **Dr. James Melius** observed he thought the entire Board had

received an e-mail from a person related to a conflict of interest issue with the Rocky Flats site profile and wondered when the appropriate time might be to address that matter. **Dr. Ziemer** indicated he had received the e-mail and inquired if the staff had seen it or were aware of the issue. **Mr. Larry Elliott** indicated he had not seen the e-mail sent to the Board, but had been sent one prior to that. It was from a woman who advised that a person on the ORAU team working on the Rocky Flats site profile had, prior to the EEOICPA program, provided testimony in litigation on her husband's claim. What needs to be done in this regard is being evaluated by the Department. In a slightly different situation, testimony had been provided against a claim in the courts by a principal in a firm subcontracting with ORAU, although the individual was not serving on site profile development or dose reconstruction. That subcontractor will be released.

- **Dr. Melius** indicated his hope that, as issues are dealt with, a policy is established so that individual issues don't have to be constantly addressed. **Mr. Elliott** agreed, indicating that it was part of the review underway currently and that discussions are being held relative to the type of contract language necessary to have in place to avoid the problem.
- **Dr. Melius** inquired if everyone were aware of a letter from three New York congressmen to Dr. Ziemer asking the Board to review the site profile for Bethlehem Steel and raising a number of questions to address. **Dr. Ziemer** indicated he had studied the letter on the plane and felt it should be discussed with the Department and to review issues relative to how the matter should be handled. He was unaware whether other Board members had received copies, but they would be made available to them.
- **Dr. Melius** commented that he was still unsure exactly how the site profiles were to be used as a handbook for dose reconstruction. He suggested that possibly a briefing, with examples, using a completed site profile could be given which would be useful to gaining a better understanding of the process. **Dr. Melius** further observed that the Board wasn't reviewing the documents, as had been originally discussed, noting that some earlier documents had gotten outside technical peer review. He wondered what the process was going to be, pointing out that as they began individual dose reconstruction reviews the Board didn't want to be in the position of finding a

technical document to be wrong or seriously problematic. **Dr. Ziemer** asked for other Board member comment, noting that part of the audit process included asking the Board contractor to audit the usefulness of the site profiles in assisting dose reconstruction. He added that if the process works properly it should point out the strengths or weaknesses on site profiles, either generically or individually. **Dr. Ziemer** further noted that the Board's charter did not call for approval of site profiles in advance. **Dr. Melius** countered that while **Dr. Ziemer's** observation was correct, the charter did call for review of individual dose reconstructions which would utilize the site profiles. He further commented that when the Board approved the regulations which guided the dose reconstruction process, it had discussed the Board advising NIOSH on technical issues developed over time. **Dr. Melius** questioned the full scope of the Board's dose reconstruction review contract, if it would entail review of every procedure or if it would be selective, and if it included every site profile, noting that now the Board was receiving Congressional letters of inquiry.

- **Dr. Ziemer** reminded all present that an audit process is not a 100 percent review of everything done. The Board's audit process called for a review of two and a half percent of the dose reconstructions. Noting that many of those reconstructions will have used the same site profile for a portion of the reconstruction process, he opined the Board would be able to evaluate them in some form or another.
- **Dr. Antonio Andrade** commented that the members should also remember they were not an expert board but an advisory board, questioning the extent to which they should review technical details of any of the site profiles. **Dr. Andrade** recalled that it was announced that site profiles would be developed and used in a limited sense, and that today's presentation had conveyed a feeling for the limitations imposed on their applicability. Given the fact that the Board has a task order out directing its subcontractor to look at site profiles on top of dose reconstruction, **Dr. Andrade** expressed his satisfaction with the type of updates just presented. He indicated he was given a feeling for how they are being used, the details going into them and the types of analyses and assumptions being made within them. **Dr. Andrade** opined that adding work to the Board did not necessarily add value.

- **Mr. Mark Griffon** observed that the contractor's work is the Board's work, so the Board would be reviewing site profiles. **Mr. Griffon** commented that while he understood what was meant by the term "limited scope," he was concerned that a better understanding of operational detail on some sites was going to give a very different picture of worst-case doses. **Mr. Griffon** queried how unmonitored dose was being addressed in the complex-wide documents, given anecdotal reports of badge tampering or not being badged for certain operations. **Mr. Hinnefeld** replied that without looking at specifics, it would be more difficult to apply a complex-wide approach, so it would fall into the case selection portion of the process. Those are the kind of issues that would affect case selection.
- **Dr. Melius** responded to **Dr. Andrade's** comment by stating he wasn't suggesting adding work for the Board. He observed that, in addition to the scientific confidence the Board has in what NIOSH does, the Board has its own credibility issues and should remember that at the end of the process the credibility of what the Board has not reviewed must be defended in some way. **Dr. Melius** indicated he wanted to make sure NIOSH wasn't expecting the Board to provide the technical review on all those procedures.
- **Dr. Andrade** inquired of **Mr. Griffon** if he recalled the percentage of work the Board subcontractor would be looking at site profiles. **Mr. Griffon** replied he didn't recall, but that it was a fairly high percentage of overall site profiles. **Dr. Ziemer** added that it was much higher than for individual cases, which was understandable since most of the cases would come from a relatively small number of sites.

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UPDATE ON INTEGRATED MODULES FOR BIOASSAY ANALYSIS (IMBA)

Mr. David Allen
NIOSH

Mr. David Allen explained that the Integrated Modules for Bioassay Analysis (IMBA) is the computer software used in the EEOICPA program to make internal dosimetry calculations. The difference between IMBA

and other commercially-available software for that purpose is that IMBA uses the current International Commission on Radiological Protection (ICRP) models, as opposed to the ICRP-30 model which is a generation back.

ICRP is the acronym for International Commission on Radiological Protection, the recognized worldwide expert on internal dosimetry and radiological protection in general. In 1994 ICRP published a new lung model for internal dosimetry, which was the beginning of various new models, including biokinetic models. That lung model was more complicated than the last and so while it was being produced, computer programs to help evaluate the model were also produced.

The computer software was developed by the National Radiological Protection Board (NRPB), a semi-private/semi-government agency of Great Britain. People from NRPB were involved when the ICRP committee was developing the lung model, and they developed the evaluation software while the model was being produced.

Once the lung model was produced, the software was connected to the ICRP-30 biokinetic models and packaged in a form known as LUDEP. It was a hybrid of current and old models, DOS-based and clunky to run, but it was there.

As ICRP began producing new biokinetic models, the individuals at NRPB produced new computational models, or modules, to do the calculations. This was eventually put together into one computer program known as IMBA. NRPB copyrighted the computational modules and produced IMBA-URAN in an integrated fashion. It was limited to uranium, but did put everything together.

DOE contracted for a version to include more isotopes and more versatility, IMBA EXPERT, which took some time to complete. During that process, NIOSH contracted for a version that allowed for annual doses for a limited number of isotopes, IMBA-NIOSH, providing what was needed for this program on a limited basis. Once the DOE version was completed, NIOSH asked for a modification to include all the isotopes plus some additional isotopes. That was put together into what is now known as the IMBA EXPERT OCAS edition.

Mr. Allen explained briefly how the IMBA program operated, and presented an array of screen shots to demonstrate the variety of

options provided through user input. Specific features of the program described by **Mr. Allen** were the ability to select date, route of entry, chronic versus acute dose. Solubility parameters may utilize ICRP defaults or individual parameters may be entered. Bioassay may be specified as whole body, lung, urine, et cetera, to determine intakes. Dose may be calculated from a given intake or the calculated intake. Dose may be calculated as whole body, tissue or organ, and can be specified as either 50-year committed or annual dose.

Discussion Points

- **Dr. Antonio Andrade** asked for another explanation of Mr. Allen's comment that either the model predicted points below the detection limit or data were entered that were below the detection limit. He wasn't sure which **Mr. Allen** had said. **Mr. Allen** replied that, as an example, if urinalysis results were less than one picocurie per day, the program allowed the user to put in that value and say it was less-than. **Dr. Andrade** inquired whether a reasonable health physicist, using classical statistics, wouldn't have a decision limit above your detection limit. **Mr. Allen** agreed, noting that in a lot of cases there will be no detectable samples, therefore a lot of less-thans. This allows them to be plotted. **Mr. Allen** indicated there were a number of options available. **Dr. Andrade** suggested it was artificially establishing a floor below the detection limit for the system. **Mr. Allen** disagreed, explaining that it is using a maximum likelihood method on the fit. By establishing that the value is less than detection limit, it says it has to be in the range somewhere between zero and the detection limit.
- **Dr. Genevieve Roessler** inquired if the IMBA model had been developed by NRPB. **Mr. Allen** responded that NRPB had copyrighted the calculational model used for LUDEP and the lung model. **Dr. Roessler** asked if that had been done more recently. **Mr. Allen** replied it was probably post-'94, and then as the biokinetic models were developed, new modules were copyrighted. **Dr. Roessler** indicated she had been under the impression NIOSH had developed IMBA, when it's actually using a program developed by NRPB. **Mr. Allen** agreed that it consists mostly of copyrighted calculational engines, with a user interface developed for NIOSH.

- **Dr. Roessler** asked who validated the model, indicating she wanted to know it was working right and that it was the model NIOSH wanted to use and that they were getting the right answers. **Mr. Allen** responded that NRPB did a lot of quality control. They were basically the only entity with credibility when NIOSH was looking for something. NIOSH has used the committed dose section, entering a one becquerel intake to see if they get the right effective and organ doses according to ICRP publications. They are using the ICRP models, and the program with the particular input yields the correct output based on the publications. The NRPB quality control documents are available also.
- **Dr. James Melius** asked how he knew it was giving correct answers for other situations, adding he assumed there'd been more to the quality control that went into developing this than what **Mr. Allen** had described. **Mr. Allen** replied that NRPB had put a lot into it. What NIOSH has done is, for each isotope, to put in one becquerel and see if the effective dose and committed dose to organs matches what is in the publications. They then calculated annual dose for 50 years, put them in Excel, added them and made sure that matched. Using ICRP-78 dates for bioassay, they can put in standard input like a one becquerel intake and predict what the bioassay should be at various points in the ICRP publication and verify that it matches with the publication. **Mr. Allen** added that some spot-checking had been done against the Potter magazine of tables for bioassay analysis.
- **Dr. Melius** indicated he was confused or concerned by mention that when an outlier was found, it was excluded. **Mr. Allen** replied the option was there for the dosimetrist. **Dr. Melius** asked if that's what was being done. **Mr. Allen** responded that it could be, because errant bioassay samples do occur. **Dr. Melius** inquired how one would know it was being excluded because it was a bad bioassay sample versus a wrong assumption because of poor information, and how does that eventually get into the IREP model in terms of certainty about the dose. **Dr. Melius** clarified his question as being if ten health physicists used the same data, would they make the same calculation. **Mr. Allen** replied that for internal dosimetry, you would get ten different answers. He noted that their job is to make sure they were on the same side of the 50 percent probability of causation. **Mr.**

Allen further indicated that uncertainty was avoided by overestimating or underestimating bioassay in order to bound the intake, eliminating the need to deal with percentage of error. **Dr. Melius** countered that his concern was for cases where that couldn't be done and where assumptions would be critical to outcome and how to get consistency in doing it.

- **Mr. Mark Griffon** asked if all the radionuclides needed for the program are available in the newest version of IMBA. **Mr. Allen** responded that it now numbered approximately 54. While the most important ones related to DOE are included, it was not every single one, noting there was always an occasional odd case. He indicated that what is missing either has a short half-life or a short biological half-life, and the published 50-year committed dose can be used without the computer program.
- **Dr. Andrade** inquired if all the raw data collected by the laboratories are used or if final values were used. **Mr. Allen** replied that raw data are asked for and used.
- **Dr. Melius** commented he had thought **Mr. Elliott** had agreed to look into the issue of accessibility of IMBA for people not directly involved and wondered if that had been given any more thought. **Mr. Elliott** indicated he had already answered that question. **Mr. Allen** added he had encouraged the vendor to look into producing a publicly-available version for sale, but it has not been made yet. The vendor has indicated a version with fewer functions that might possibly be affordable is what they're shooting for, noting that purchase would be required because of licensing issues with copyrighted software.
- **Mr. Griffon** inquired into availability of the software for the Board or its subcontractor. **Mr. Elliott** replied that the Board, its subcontractor and ORAU have access to IMBA-OCAS as special government employees or contractors to the government. But **Mr. Allen** was right and accurate in his statement that the ICRP models and the calculation engine are copyrighted and protected, and NIOSH cannot distribute them to the public without a user's license. Somebody has to pay for that. **Mr. Griffon** asked if a copy could be made available prior to the next meeting. **Mr. Allen** indicated that it could be done, although he wasn't sure how the details would be worked out. **Mr. Elliott** asked if he was correct in his understanding that it was not in CD form. **Mr. Allen** replied that it is on CD, which **Mr. Elliott** agreed to provide.

- **Mr. Michael Gibson** asked how much of the data from DOE sites is based on assumptions relative to default factors, solubility class or date of intake which may be assumption. **Mr. Allen** replied that was why they asked for raw data. In a bioassay analysis there are no assumptions. It is a laboratory analysis from which assumptions are made as far as solubility, et cetera. The assumptions used are the reason for the site profiles, in order to have an idea of materials on a site so that they know what type of solubilities would be associated with it, and whether the bioassay fits the data. **Mr. Gibson** asked if the date of the bioassay was looked at. **Mr. Allen** indicated they looked at the date the sample was taken; what was taken; whether it was a 24-hour sample or an allotment; the actual results; and what isotope, if available. He indicated they got everything they could get, and were not shy about asking for it. **Dr. Ziemer** asked if that answered **Mr. Gibson's** question. **Mr. Gibson** replied he wasn't sure he'd understood it all, but he was fine with the answer for now.
- **Dr. Ziemer** inquired if **Mr. Allen** were saying assumptions made on the site were not utilized. **Mr. Allen** replied that the doses calculated were not necessarily good for NIOSH purposes, and that very few sites calculated an annual organ dose. **Dr. Ziemer** asked if **Mr. Allen** found no value in looking at what may have ultimately been calculated for tissue or organ dose. **Mr. Allen** agreed there could be some value, and if the only thing available is calculated dose, with enough details one can back-calculate what the bioassay was that it came from.
- **Mr. Gibson** asked if one would be able to distinguish a super-Y class of plutonium or if it could mask the raw data out of the bioassay. **Mr. Allen** responded that it couldn't really mask the raw data, but could mask the dose and intake, calculated from the raw data. IMBA provides default classes which can be selected, but user input is also available. **Mr. Allen** indicated that in the case of a super class-Y plutonium, a Technical Information Bulletin would probably be developed evaluating a particular site, indicating the solubility doesn't follow the defaults and more information is available, and in that case use these absorption parameters for this site. He indicated that had not been done yet, there had been no changes from defaults yet, but noted they were still young into that part.
- **Dr. Melius** inquired if the validation done by NIOSH had been

documented. **Mr. Allen** replied that part of the contract for the upgrade was documentation on all the V&V done by NRPB. Further evaluation has not been documented in a very formal manner, though the numbers are available and it's just a matter of doing it. **Dr. Melius** commented it would be good to have if questions were raised.

- **Mr. Griffon** asked if there are any plans to update the CINDY code to be ICRP-60/66 compatible. **Mr. Allen** replied he'd not heard of it and didn't know if it were happening. **Dr. Andrade** commented that when they were asked by DOE to assist in the development of IMBA, big dollars were spent; and in doing so DOE elected for this particular code to be invested in. Therefore, if CINDY is being upgraded, it is getting done at the grassroots level somewhere.
- **Mr. Griffon** inquired if there had been an occasion to use air sampling data to validate dose calculations from bioassay. **Mr. Allen** replied that while he would love to do so, getting air sample data and correlating that to an individual throughout a 20-year career is virtually impossible.

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WORKGROUP ON OPTIONS FOR EVALUATING CLAIMANT INTERVIEWS

Dr. James Melius,
Workgroup Chair

Dr. James Melius reported that the workgroup had met once by conference call since October, and had received the ORAU procedures for scheduling and conducting the interviews. After reviewing that material and recognizing that the NIOSH/ORAU program for Quality Assurance/Quality Control (QA/QC) measures related to the interviews were a work in progress, the workgroup developed a set of recommendations covering two areas. A written copy of the recommendations was provided to the Board members.

Noting that NIOSH may very well already be doing so, the workgroup felt the procedures or events should be captured as part of the database, allowing the Board or its contractor to evaluate the interview process. The recommendation is primarily to assure a

record is maintained that would allow for review. The second part of the recommendation was that NIOSH take steps to evaluate the interview portion of the program to determine if improvements are needed.

Dr. Melius acknowledged that the Board was split on the issue of whether a re-interview should be conducted as a means of evaluating the process. The information provided through the suggested method of review would make it possible for the Board to assess whether it felt a more intrusive form of review would be necessary.

Dr. Paul Ziemer announced that, as Chair, he was interpreting **Dr. Melius'** document as a recommendation from a working group, which constitutes a formal motion requiring no second. **Dr. Ziemer** indicated he had availed himself of the opportunity to listen in on the working group conference call and wanted to assure NIOSH staff that the Board was not mandating tasks for NIOSH. The recommendation was a list of the kinds of records the Board would like to be able to sample, if available.

Discussion Points

- **Ms. Wanda Munn** commented that she had anticipated another meeting of the workgroup before a formal presentation would be made to the Board, and felt perhaps comments made during the workgroup's discussion were not fully captured in the document. Of primary importance was a suggestion that a tracking document, which had been signed off on at various stages in the process by individuals performing specific tasks, go along with the case file.
- **Dr. Ziemer** asked if that were not included in item 1(f). **Ms. Munn** agreed 1(f) incorporated the suggestion, but felt it was not as clear as what she'd had in mind. She was asking for a clarification statement in the document.
- **Dr. Antonio Andrade** observed that if an electronic system were put in place, a "traveler" could be generated at any point in time with any particular case, making the audit function very easy to accomplish. **Dr. Andrade** commented that a QA/QC system is meant for those people implementing the process for their own quality development and improvement. He cautioned the Board not to lose sight of the fact that NIOSH should own and evaluate

that program, ORAU should use the procedures developed, and the Board should keep track of what's going on through its subcontractor review.

- **Dr. Andrade** pointed out that QA/QC is meant for quality improvement, improving processes in the future, not as an avenue to go back and evaluate retrospectively. Observing that the last sentence in the last paragraph of the document speaks to re-interviewing claimants, **Dr. Andrade** suggested the Board decide once and for all whether that is even an option. **Dr. Andrade** offered his opinion that it should not be, that it is onerous and that, because the only re-interviews conducted would be with claimants who'd been denied, it could only be a heart-wrenching experience for those people.
- **Dr. Ziemer** asked whether **Dr. Andrade's** intent were to make a motion to amend or to reflect a point of view. **Dr. Andrade** replied there would be a two-phased approach. It was his feeling the Board should discuss whether re-interview is open for consideration. If not, he would move to amend the draft.
- **Dr. Ziemer** observed that the document did not bind the Board in any direction. He further noted that he had personally been opposed to re-interview, if only because the original interview cannot be reproduced for any number of reasons, rendering it useless as a quality check on the original interview.
- **Dr. Henry Anderson** expressed his approval of the recommendations. He opined that the document set aside the decision of re-interview, dependent on what the QA/QC program is, noting that its design would relieve a great deal of concern about the interview. That could not be determined until individual cases were reviewed or the contractor indicated there were some improvements to recommend.
- **Mr. Mark Griffon** indicated he had expected the recommendations to involve a Board function rather than an internal audit. He inquired whether the workgroup had discussed having the Board do steps (a) through (f). **Dr. Melius** explained that paragraphs one and two are the NIOSH QA/QC program to improve the interview. The last paragraph is what the Board would do, and is perhaps for another working group. Noting that the wording may not be as complete as it could be, the statement is that based on the implementation of the NIOSH QA/QC program, the work group is not recommending there be any potentially more intrusive way of reviewing the interviews at this time. It is left open to see

what the results of the NIOSH QA/QC program may be.

- **Mr. Larry Elliott** observed that the set of recommendations are appropriate for an understanding of what the Board would like to audit on this piece of the process. He noted that while all of the suggestions are not fully developed and functional, it reflects the direction in which NIOSH is moving. **Mr. Elliott** reminded the Board that he had said from the beginning that the Board's audit should evaluate the interview process and how those interviews contribute to dose reconstructions. **Mr. Elliott** further reminded the Board that he had also said re-interviewing claimants is off the table. Noting that it was not the Board's decision to make, **Mr. Elliott** advised the Board that the Department of Health and Human Services would have to become involved in that decision and will have to decide the value of that component if the Board chooses to re-interview claimants.
- **Mr. Leon Owens** reminded the Board of its need to at all times consider the credibility of the program and offered his opinion that re-interview would be valuable from the standpoint of quality assurance.
- **Dr. Roy DeHart** commented that he assumed the rationale for the recommendation is an uncertainty the current interview system is working effectively. He asked if there was an awareness of any significant problems, in light of some 20,000 interviews having been done. **Mr. Elliott** responded that they are not aware of problems in the interview process. The ORAU manager and other delegated people in the interview part of the program listen in on entire interviews and provide feedback. **Mr. Elliott** indicated he was personally aware of how interviews have been captured and utilized in dose reconstructions and how they're reflected in the dose reconstruction report, and so is comfortable and confident in saying the process is a contributing factor to dose reconstruction. He added that while no major problems have been identified with the process, they continue to watch it closely.
- **Dr. DeHart** asked if that meant NIOSH is in the process of developing what had been suggested in (a) through (f). **Mr. Elliott** replied that some of these are in place, though perhaps not yet at a state of readiness that he is happy with, and that NIOSH intends to put others in place. He noted that the tracking system is not yet in place, but that he agrees with it. The traveling document would go along with that. He expressed his

appreciation for the Board's thoughts and comments.

- **Dr. Ziemer** commented that in his observation of the working group, he did not think there was an assumption of fault with the interview process. The issue had been one of how the Board could carry out its responsibility of evaluating it.
- **Dr. Andrade** clarified his position that if an ORAU observer decides a re-interview is appropriate before a case is closed, they have that option. But his concern is for the closed cases being reviewed by the Board, and having Board recommendations used as an avenue to redress the decision. **Dr. Ziemer** indicated he did not think that was the case; he thought the desire was to re-interview a closed case.
- **Mr. Mark Griffon** reminded the Board that often in public comment there has been concern expressed by claimants with the interview and the information collected. So while those comments were made some time back, it is not entirely accurate to say there was no concern over this part of the process. **Mr. Griffon** inquired if the possibility of taping and creating a transcript of interviews, with the claimant's consent, were also off the table or if the Department would consider doing that. **Mr. Elliott** responded that it had been considered and the problems associated with it had been articulated many times, noting that at this junction it is not a viable recourse.
- **Dr. Melius** responded to some of the previous comments by stating that people are more likely to be concerned about their interviews than what assumptions were used or other technical information. And perhaps more importance than is appropriate may be attributed in an individual case, given the time frame, survivor issue, et cetera. NIOSH needs a credible program to review the interviews and continue improvement. The Board needs a credible process for review, even though no particular problems were seen. The workgroup noted NIOSH had steps in place that reviewed the interview. They listened in, there was an initial review and a later review. The probable point at which a problem may come up is in dose reconstruction, when someone is looking in detail at all the information and would notice discrepancies. Those may be dealt with by a check of the record, a call back to the person for clarification, and that's fine. The recommendation is simply to report it in some way so there's a record of having done that. It is understood the Department is going to be resistant to re-interview. However,

Congress gave the Board the charge to review the dose reconstruction program and it must be able to say the review had been done properly. That means the Board has to be able to say something about the interview process. The Board does not want to be put in the position of saying it could not carry out its mission because it wasn't given access to review a major part of the program. What the workgroup has laid out is an effort to get the Board where it needs to go.

- **Dr. Ziemer** indicated that from what he had heard of workgroup discussions, the feeling was that if a good quality assurance program were in place which could be audited, the Board could reach the level of confidence it wanted without re-interview. The recommendation contained the key pieces to help get to that point.
- **Dr. Genevieve Roessler** voiced her support for everything contained in the recommendation absent mention of re-interview, for the reasons **Dr. Andrade** had expressed previously. **Dr. Ziemer** again pointed out that removal now does not preclude Board action at a later date, and inquired if **Dr. Roessler** were moving to amend by deleting the last two sentences. **Dr. Roessler** countered that if it could be done at a later date, it should be left for later.
- **Mr. Michael Gibson** remarked that some things may come up during a site profile that could require re-interview of a claimant.
- **Dr. Andrade** commented that **Mr. Gibson** had raised a good point, and there were other concerns on the table, but the Board had been advised about the likelihood of ever doing retrospective interviews after final decision.

Motion was made and seconded to amend the workgroup recommendation by striking the last two sentences of the last paragraph.

Dr. Ziemer called for discussion on the motion to amend.

Dr. Melius noted his understanding of the charge to the working group was to deal with the issue and in some way the reference to re-interviewing is because of the charge given the working group by **Dr. Ziemer** and the discussions they had in order to carry it out. It asked if there were things that could be done that would be sufficient short of re-interviewing or some other intrusive process,

and **Dr. Melius** stated he felt the reference should be in the recommendation. Acknowledging that the Board was split on the issue and that it was difficult to deal with, **Dr. Melius** offered that the recommendation was a way of developing a compromise that can be lived with until they're able to make a more informed recommendation, a time at which differences may be less.

Mr. Elliott offered as a point of clarification that the charge to the working group was specific in evaluating options or identifying options to evaluate the interview process.

Dr. Ziemer indicated he could not recall the exact wording, but that the Chair's objective is to find a way to audit without doing interviews.

Mr. Elliott assured the Board that had been the exact charge from the transcript which he had sent to the working group just recently.

Dr. Ziemer reiterated that striking the sentences does not preclude anything. It simply doesn't address it at the present.

Dr. Anderson commented that if it were left in, it would provide some institutional memory for future Board members as current members are rotated off.

Dr. Ziemer observed that the institutional memory is in the transcripts.

Dr. Anderson countered that on other boards he'd found that what the agency and subsequent board members pay attention to are action items, of which this Board has tended not to maintain a list.

Mr. Rich Espinosa agreed with **Dr. Anderson.**

Dr. DeHart noted that the title of the document is "Recommendations of..." and that the next to last sentence begins "The working group is not recommending...," noting that it counters what is expressed in the document.

Mr. Griffon reminded the Board of Dr. John Till's report to the Board on a review of a veteran's program, with one finding being that doses may have been underestimated because information in written documents

provided by some of the claimants in those cases had not been adequately incorporated by dose reconstructors. **Mr. Griffon** noted that this is an important program component and how it's designed is critical to how much information is elicited from the claimants and how useful it can be.

Dr. Ziemer noted, for clarification, that Dr. Till's concern was that the material was not utilized at all, as opposed to an issue of inadequate interviews. **Mr. Griffon** agreed, commenting that they hadn't actually had interviews, but dose reconstructors hadn't paid attention to material provided. **Dr. Ziemer** observed that the issue now is a separate issue. **Mr. Griffon** agreed, though it demonstrates the importance of the tool.

Ms. Munn asked, as a point of clarification, if the issue is not one of closed claims. **Dr. Ziemer** confirmed they were indeed discussing closed claims. **Ms. Munn** noted that the consideration of re-interview then put the Board in the position of being viewed by the public as a quasi-appellate body. **Dr. Andrade** and **Mr. Robert Presley** agreed that **Ms. Munn** was correct in that observation. **Ms. Munn** indicated she was not prepared to serve in that capacity, did not believe it was the charter of the Board and would not go there.

Mr. Presley commented that early on in Cincinnati he had observed some of the interviews and was accepting of what was being done, noting that the Board could be getting itself in trouble with the re-interviews.

Dr. Ziemer called for a vote on the motion to amend the recommendation of the working group.

With the Chair voting in favor of the motion, the motion failed for lack of a majority in a six to six tie.

Dr. Anderson observed that he'd thought the Chair only voted in the event of a tie. **Dr. Ziemer** replied that in the Board's own rules they had agreed that the Chair would always vote so that people knew where the Chair stood on any given issue.

Noting that they must now return to the original document, **Dr. Ziemer** asked if the Board were ready to vote. **Dr. Andrade** asked if he might offer his editorial comments as friendly amendments. **Dr. Ziemer**

agreed.

Dr. Andrade suggested the term "supervisory monitoring" in item 1(a) be changed to "management monitoring." With no objection, the change was so ordered.

Noting that in item 1(b) the review is not necessarily done by management but rather a group looking for both technical and editorial accuracy, **Dr. Andrade** suggested the paragraph be changed to read "Records of the review of the summary report, to include items that are found to need further clarification, including corrective actions." With no objection, the change was so ordered.

In item 1(c) **Dr. Andrade** suggested striking the words "significant problems" and replacing them with the words "to include any items" in the second line. **Dr. Ziemer** observed that change may be slightly more than editorial and inquired of the Chair of the working group if such a change would be considered a friendly amendment. **Dr. Melius** acquiesced. With no objection, the change was so ordered.

Continuing with that paragraph, **Dr. Andrade** suggested inserting the words "to need further clarification" after the word "found," so that when edited the paragraph, in its entirety, would read "Records of the health physicist's review of the completed interviews at the time that the dose reconstruction is being done, to include any items found to need further clarification and corrective actions."

Dr. Andrade noted that he had not yet constructed a comment that he felt should be included to indicate the Board's contractor would perform part of the review. He wasn't sure where to fit it in. **Dr. Ziemer** observed that (a) through (f) were things it was suggested be part of NIOSH's system for the Board to review, identifying the kinds of records that could be reviewed, and perhaps the Board's subcontractor should not be brought in at this point. **Dr. Ziemer** asked if the Board were comfortable with the friendly amendments.

Mr. Leon Owens asked if, since in item 1(b) the words "completed interview" had been changed to "summary report," they should also be changed in item 1(c) to be consistent. **Dr. Ziemer** asked the staff for clarification on what the health physicist uses, the summary or the interview.

Mr. David Allen responded that the term "summary report" is used because there is no transcript of the interview. The difference is that in item 1(b) the summary is a draft, not yet reviewed, and could possibly change for grammar, et cetera. **Dr. Andrade** observed that the health physicist could review this first report and ask for more information or even re-interview if necessary. **Mr. Allen** agreed, noting that summary report in item 1(b) is before the claimant has seen it. After that review, it goes to the claimant, who can make changes he feels are needed. In item 1(c) the claimant has reviewed it, made changes and the dose reconstructionist is the one looking at it. **Dr. Andrade** asked what it's called if a question or point of clarification is made. **Mr. Allen** replied that if the claimant was called back or a letter from a claimant was received to change anything, it's changed and called an updated summary report. It was agreed it was a matter of semantics.

Dr. Ziemer asked if the Board was ready to vote. **Mr. Presley** called for a point of clarification, noting that perhaps the term "working group" in the last paragraph should be changed to "Board." With no objection, the change was so ordered. **Dr. Ziemer** called for a vote.

The motion to accept the recommendations of the working group on evaluation of the interview process was passed unanimously.

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PUBLIC COMMENT PERIOD

Ms. Patricia Ehlmann
Wright City, Missouri

Ms. Ehlmann, along with her brother, are survivor claimants for their father, a Mallinckrodt employee from 4/43 to 10/66 at the St. Louis plantand later at Weldon Spring. when he was diagnosed with multiple myeloma in 1983 and died in 1987. **Ms. Ehlmann** was told DOL could verify her father’s cancers, but could verify only that her father had worked at Weldon Spring. With assistance from Denise Brock **Ms. Ehlmann** later was told that DOL paperwork showed her father had only worked in St. Louis. **Ms. Ehlemann** indicated that it only took common sense to understand that if an employee worked from '43 to '66 they had to work at both plants because the plants weren't in operation at

the same time.

Mr. Knut Ringen, Science Advisor
Center to Protect Workers Rights
Seattle, Washington

Mr. Ringen announced that the Center to Protect Workers Rights (CPWR) is a non-profit research and development arm of the National Building Trades Department of the AFL/CIO, with a longstanding partnership with NIOSH in the area of construction safety and health. CPWR has a contract with OCAS to try to develop better dose and radiation monitoring estimates for construction workers, and is involved in medical screening programs for construction workers at Hanford, Savannah River Site, Oak Ridge, Portsmouth GDP, Paducah GDP, and Amchitka. He indicated that in the last six years CPWR has probably interviewed more than 10,000 workers at those sites. .

Mr. Ringen stated his comments would be limited specifically to construction workers and claimants who are construction workers. Roughly half the current claimants in the EEOICPA program are construction workers or their survivors, according to **Mr. Ringen.** He was concerned about the 30 to 40 percent of his members where there are no valid dose data and claimants have difficulty recalling their work history.

Mr. Ringen indicated that his organization did not agree with the NIOSH interpretation of the law and its plans for dose reconstruction. He described what he felt were fundamental flaws in the way the program was set up.

Mr. Ringen stated he had been present at the Savannah River Site meeting in November, characterizing it as a very good meeting with open give and take.

Mr. Ringen observed that all the site profile documents are very important. He noted that the quoted purpose, "to evaluate both internal and external dosimetry data for unmonitored and monitored workers and to serve as a supplement to or substitute for individual monitoring data," was a very large charge and not very specific He listed a number of reasons why his organization became very

concerned when the site profile was reviewed.

Mr. Ringen stated that following the meeting, his organization agreed to make available to NIOSH all the information they have.

Mr. Ringen raised the issue of inviting comment after a site profile is posted on the web site, claiming it puts a burden on the claimants to show deficiencies in the document.

Mr. Ringen asked the Board to consider recommending to NIOSH that it issue a replicable method for preparation of the site profiles and that this include validation of the information it receives from the site in terms of accuracy and completeness

Mr. Ringen further suggested that for future meetings, notice be sent out to all claimants within a 50- to 80-mile radius. He also suggested holding an evening session for public comment.

Dr. Henry Anderson asked what kind of follow-up had been received from NIOSH after the Augusta meeting.

Mr. Ringen replied **Mr. Elliott** had asked them to submit all their information and documentation, as well as their results from the worker interviews. **Mr. Ringen** further commented that interviewing construction workers is difficult because it has to be put in occupational terms the workers are used to.

Mr. Rich Espinosa inquired about the 20 percent of construction worker claimants whose employment could not be verified.

Mr. Ringen responded that in about 20 percent of the claims from construction workers, DOE is unable to verify employment. He noted that a problem is that a number of the members of his group have been employed by subcontractors and sub-subcontractors

Mr. Espinosa asked about using co-worker data with construction workers and getting differences in dose reconstructions. **Mr. Ringen** explained that extrapolating from co-worker data is difficult with construction workers Exposures are hard to predict because the environment isn't anticipated and the work isn't anticipated.

With no further comments, the Board officially recessed until

the following morning.

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Wednesday, December 10, 2003

Dr. Paul Ziemer called the second day to order, reminding guests to register their attendance and requesting that those wishing to make public comment sign in for that opportunity.

The first item on the day's agenda was an introduction to the subcontractor who would be providing support to the Board in its audit of dose reconstructions. **Dr. Ziemer** pointed out to the Board members and the public that the presentation and any ensuing discussion would have to be very general. The proprietary document to be addressed in this afternoon's closed session had yet to be reviewed by the Board.

Mr. Mark Griffon asked if the Board might inquire regarding the technical skill proposal.

Dr. Ziemer referred the question to **Ms. Martha DiMuzio** for response. **Ms. DiMuzio** indicated that there was a document before the government for consideration and would not be a public document until final award had been made. General questions may be asked, but specific discussion about the proposal was for the afternoon closed session.

Confirming that no Sanford Cohen and Associates (SC&A) representative would be permitted in the closed session, **Mr. Griffon** queried how negotiations or discussions of technical scope might be accomplished. **Ms. DiMuzio** replied that questions would be developed and referred to SC&A for response within seven days. **Dr. Ziemer** noted that while it had the effect of prolonging the process, the contractor had a right to formulate their response. **Mr. Larry Elliott** added that it also provided an opportunity for redirection in the event the Board found the contractor had made proposal outside what the scope of the task called for, commenting that both redirection and questions are confidential. **Ms. DiMuzio** cautioned that it could not appear as if the Board were leading the contractor to arrive at a certain point.

Dr. Ziemer asked if the ground rules were understood by the Board before commencing. A member of the audience, Mr. Richard Miller of the Government Accountability Project, interjected his opinion that the technical scope was what was of interest to the public and NIOSH should make public the accepted bid proposal so that the public could have a sense of the structure, organization, methods, et cetera. **Dr. Ziemer** pointed out to Mr. Miller that the scope of the work had been defined by the Board and was public. The determination to be made is whether the contractor is capable of responding to those tasks. The upcoming presentation will provide information on the organization of the company and its personnel. **Ms. DiMuzio** advised Mr. Miller that the original proposal would require a specific Freedom of Information Act (FOIA) request and could be released if SC&A is willing to release it in light of proprietary information it contains.

INTRODUCTION TO THE ADVISORY BOARD'S SUBCONTRACTOR

Dr. John Mauro
Sanford Cohen & Associates

As Senior Vice President of the consulting division of SC&A, **Dr. John Mauro** offered an overview of the company selected in October 2003 to provide technical support to the Board in fulfilling its mandate under EEOICPA. He described SC&A as a small radiological consulting company incorporated in 1982 with headquarters in McLean, Virginia, specializing in doing dose calculations A full service radiological laboratory is located in Montgomery, Alabama. Employing approximately 30 nuclear engineers and health physicists, and with some 50 associates who specialize in a variety of areas, principal clients are primarily government agencies such as the U.S. Nuclear Regulatory Commission, the U.S. Environmental Protection Agency and the Federal Emergency Management Agency.

In addition to the consulting division headed by Dr. Mauro, the company also has laboratory, radiation field services and quality assurance divisions. Dr. Mauro presented an organization chart of the project, identifying the key personnel who will support his role as project manager, and describing their education and experience. **Dr. Mauro** commented that a powerful conflict of interest control process had been put in place to make sure everyone on the project met all conflict of interest issues.

The scope of work covered by SC&A's proposal involes four tasks. **Dr. Mauro** described each task, including any deliverables called for, and briefly outlined the company's approach to the project. The four tasks are; (1) individual dose reconstruction reviews, (2) site profile reviews, (3) dose reconstruction procedure and methods review, and (4) dose reconstruction review tracking.

Discussion Points

- **Dr. Paul Ziemer** reminded the Board that comments and questions must be confined to material **Dr. Mauro** had presented. He inquired if the company has the capability of bringing in, on short notice, other experts in addition to the 30 employees. **Dr. Mauro** replied that over the years the company had developed a network of hundreds of specialists in the radiological and nuclear sciences. This gives the company the ability to quickly bring aboard an associate within a day if a need arose.
- **Dr. Roy DeHart** commented he had been about to inquire into the absence of a physician among the associates, but had noticed the inclusion of Dr. Art Upton. **Mr. Mauro** noted that **Dr. Upton** was part of the New York University Medical Center program and has been an SC&A associate for many years.

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BOARD WORKING SESSION

REVIEW AND APPROVAL OF DRAFT MINUTES

Dr. Paul Ziemer informed the Board of some clarifications he had requested in the Executive Summary, and inquired if there were further substantive comments. **Ms. Wanda Munn** and **Dr. Genevieve Roessler** discussed portions of the minutes which needed addition of a clarifying phrase or would perhaps require reference to the transcript of the meeting for clarification. **Dr. Ziemer** inquired if the Board were willing to approve the Minutes and Executive Summary, with the discussed modifications being made prior to publication.

A motion to approve the Executive Summary and Minutes of the

eighteenth meeting, with modifications as discussed, was seconded and unanimously passed.

Mr. Larry Elliott asked for a sense of the Board as relates to the level of detail in the minutes. Noting that the minutes were very detailed, he wondered if the Board would perhaps prefer something shorter, with the verbatim transcript to rely on what was actually said.

Dr. Ziemer called for some feedback, noting he had been attempting to condense them. **Mr. Elliott** confirmed that the style is something that can be changed, if they so desire.

Dr. James Melius indicated he liked the style and spoke in favor of keeping it. **Dr. Ziemer** asked if he liked the level of detail. **Dr. Melius** replied that he did, noting it was helpful not to have to refer back to the transcript to find what someone had said.

Dr. Genevieve Roessler commented that this amount of detail is important to people looking at the minutes. She noted that she knew of people, particularly those in health physics who are reviewing what the Board is doing.

Mr. Mark Griffon agreed with **Dr. Melius**, observing that not many people were going to turn to the transcript.

Mr. Presley agreed with the comments of **Mr. Griffon** and **Drs. Melius and Roessler**. **Dr. Ziemer** observed the consensus seemed to be that the proper level of detail had been attained.

Dr. Ziemer inquired if the Board wished to move forward with discussion on the proposal of formation of a subcommittee to handle ongoing issues with the contractor, or remain operating as a committee of the whole on how the Board directs and works with the contractor.

Dr. Melius conceded specific discussion was difficult until after the afternoon closed session, but noted he was uncomfortable with major changes in Board procedure being done in closed session. **Dr. Ziemer** advised the subcommittee discussion could not be part of the closed session, which was limited to the cost proposal. His suggestion was that it might wait until results of the afternoon discussions were

known, noting there was not a necessity to have a subcommittee at the moment.

Dr. Melius suggested looking at what might be lost or gained in terms of timing of the task orders through facilitation of a subcommittee to last until the next meeting with a very specific charge. A second question would be whether it is worthwhile to have a larger discussion later on about what a subcommittee might do on an ongoing basis.
Dr. Ziemer observed that a subcommittee of limited duration was more a working group, but would be operating in the absence of precise knowledge of what the charge would be to such a workgroup. **Mr. Melius** commented it was his understanding a subcommittee could act on behalf of the Board between meetings, but a workgroup could not. **Dr. Ziemer** agreed it could, if authorized by the Board. **Dr. Melius** inquired of **Mr. Elliott** if any of the possibilities of what might happen in the afternoon session would be assisted by having action taken by the time of the next meeting.

Observing that it might benefit the Board to hear a review of the process from this point forward, **Mr. Elliott** asked **Ms. Martha DiMuzio** to describe how it will work. **Ms. DiMuzio** explained that in closed session the Board would review the proposals and cost estimates provided by the contractor. The Board could determine to accept the proposals as submitted, at which point they would move forward with award. If there are questions related to the approach or level of effort being proposed, specific questions would be generated. Those questions would be forwarded to the procurement office, who would in turn provide them to SC&A for response. SC&A then has seven days to respond to the questions and potentially re-propose against the tasks, after which those responses and/or proposals would be forwarded to the Board for approval. **Mr. Elliott** added that a time extension could be granted to SC&A it it is appropriate, necessary, and justified.

Dr. Henry Anderson offered that if the intent is for a subcommittee to move expeditiously, there is still the matter of advance notice to be dealt with, noting that if they operated as a committee of the whole, they only needed a quorum. **Dr. Anderson** commented that later there may be routine activities that would make having a subcommittee advantageous, but it's early enough in the process that everybody wants to be involved in it. He suggested the Board should just

recognize that some people may not be present on short call, and just be sure a quorum is present, inquiring if it might be done by phone call. **Mr. Elliott** replied that closed session cannot be conducted by phone, and further negotiations would be the equivalent of what was going to be done this afternoon, assuming further revisions were needed.

Ms. Wanda Munn observed that, although it appears cumbersome to act as a committee of the whole, she could see no reason to further discuss establishing a subcommittee, absent some triggering event or circumstances which would clearly require its more concentrated efforts.

Confirming his understanding that the earliest a new proposal could be expected would be the first of the year, **Dr. Melius** pointed out that the next Board meeting in February would mean the loss of a month of work on the tasks, should they have to be revised, inquiring if the process can continue to go back and forth. **Ms. DiMuzio** indicated that if things were still not correct, the contractor still didn't fully understand what was wanted of them, the Board could be going back with follow-up.

Mr. Elliott asked if written back-and-forth communications between the Board and SC&A is permissible. Further, if specific issues or questions regarding a given task result in a revised proposal which is acceptable to the Board, can the Board take action and make the award by letter to Procurement? **Ms. DiMuzio** acknowledged it could, but a mechanism for approval and agreement by all the Board would be necessary. **Mr. Elliott** asked **Ms. Cori Homer** if the back-and-forth business between the Board and contractor could be done by mail, with a sense that the full Board is in agreement. **Ms. Homer** replied it was her belief that any action taken by the Board is considered a meeting and must be announced as closed, after having gained approval for it.
Dr. Ziemer agreed that sounded as if it were the case. **Ms. Homer** added that this also applied to subcommittees.

Dr. Ziemer inquired into the possibility of announcing a closed meeting for the purpose of taking final action on the proposal, assuming further proposal was necessary following the afternoon session, and the Board felt some urgency to act on the new proposal. **Dr. Ziemer** further suggested reserving some time in advance for that

possibility. **Ms. Homer** indicated she needed seven days for the announcement, and agreed with **Dr. Ziemer's** suggestion.

Mr. Elliott suggested that, for the benefit of the discussion, the meeting could be held at NIOSH offices in Cincinnati, and that expectations for meeting set-up should be minimal. **Ms. Homer** observed notice could be published on an emergency basis.

Dr. Melius returned to the issue of a subcommittee being charged with reviewing a response from the subcontractor and approving it within bounds set this afternoon. **Ms. Homer** pointed out that the decision can be made to establish a subcommittee, but it has to be established prior to a meeting taking place. **Mr. Elliott** observed it had to have a charter which had been signed off on. **Ms. Homer** added an establishment memo would provide membership, function, and frequency of meetings. **Mr. Elliott** remarked authority would have to be delegated by the Board. **Dr. Melius** asked how long this would take, and was informed by **Ms. Homer** that, with holidays coming, two weeks or longer.

Dr. Roy DeHart observed that with only a quorum being needed to act, the odds of finding 50 percent plus one to attend a meeting is greater than having a subcommittee with limited numbers available, and thus saw no advantage to an effort to create and generate a subcommittee. **Dr. Melius** commented he had been thinking just the opposite, that four people would be easier to gather than seven, and observed the real question was whether the Board wanted to spend the time and come to agreement at this meeting on a subcommittee charter. **Dr. Ziemer** indicated it wasn't obvious to him that it would be easier to gather a specific four people than any seven out of 12, that it would depend on the four people and what the dates were.

Dr. Anderson remarked that it might be advantageous to have a small group act, in effect, as Project Officer for the Board. **Dr. Ziemer** replied that the original idea had been for such a group to serve in a management role, to work with the contractor and help determine which Board members would participate in different cases, as opposed to making specific decisions such as on the contract itself.

Mr. Homer advised that if a subcommittee has been formed and establishment has taken place, the Board has to meet to determine what authority it will give the subcommittee, which would take at

least one full meeting of the Board. **Dr. Melius** asked if doing that today wouldn't establish the charter. **Ms. Homer** agreed, but indicated that it did not establish authority, and without authority, the subcommittee cannot take action without approval of the full Board. If the Board gives authority to act on their behalf, that authority has to be developed and approved before the subcommittee can take any action. **Dr. Ziemer** asked if the authority can be given prior to approval of a charter. **Ms. Homer** replied they could be developed at the same time, but until then, there was no authority.

Dr. Ziemer ruled that they would continue to operate as a committee of the whole for now and possibly call some emergency meeting of the Board if it becomes necessary to do something before the next meeting.

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ADMINISTRATIVE/HOUSEKEEPING MATTERS

Ms. Cori Homer addressed a variety of administrative and housekeeping issues. She also advised parties planning to participate in the tour the following morning that all forms of electronic communication devices were prohibited, including cell phones, palm pilots, cameras, et cetera. They were advised to dress casually, bring water if they wished, and be in the hotel lobby for a 6:30 a.m. departure time.

Mr. Larry Elliott reminded members of both **Mr. Mark Griffon's** and **Dr. James Melius'** working groups that those groups had completed their respective charges and that time could not be billed against them beyond that completion date.

January 15 in Cincinnati was decided upon as a contingency date and site, should it be necessary to deal with the issue of a subcontractor re-proposal. **Dr. Melius** suggested 11:00 a.m. to 2:00 p.m. so that people could fly in and out as a day trip, if they wished. That was acceptable.

Dr. Paul Ziemer indicated some question had come up as to the possibility of a Savannah River Site tour and asked **Mr. Robert Presley** if he could help in that regard. **Mr. Presley** replied that the former head of the Savannah River Site is now at Oak Ridge and he

would speak with him when he returned home. He did point out that a Savannah River Site tour would have to be before the meeting, which is on February 5 and 6, so the tour would have to be on a week day, the 4th.

Dr. Melius asked if evening public comment could be scheduled for the next two scheduled Board meetings. **Dr. Ziemer** asked if the members objected, noting the meeting could be adjusted so they didn't go all day and night. **Mr. Elliott** indicated he'd like to hear the sense of the Board, but stated they may be limited by the ability for space since they have to contract that with the hotel.

Dr. Ziemer reminded the Board of comments from the previous day about finding ways to get better attendance at meetings. He wondered if the staff had had a chance to think about other channels for disseminating information of upcoming Board meetings to potential claimants and workers in an area other than the *Federal Register*.
Ms. Homer indicated other methods had been used, such as announcements prepared and distributed to news agencies, newspapers, and TV stations.
Dr. Ziemer observed that the good turnout in St. Louis was largely due to local effort, suggesting there might be key contact persons at other sites who would be helpful.

Ms. Wanda Munn suggested that in meeting announcements to the public, it should be mentioned what the Board does. She indicated it was misleading for people to think they may have an opportunity to address an adjudicating body, when the Board's responsibility is one of process. **Dr. Ziemer** agreed, noting that it should be recognized the process is within the framework of individual claims, and knowledge of what's happened in individual cases helps in understanding where the process may or may not be working, and that should not be discouraged. **Ms. Munn** indicated that had not been her intent.

Dr. Henry Anderson suggested saying in the notice the Board was interested in hearing about people's experiences with the process, interview and/or paperwork, assuming those interested in coming are claimants and would want to share that experience. He noted that while it would be a biased sample, it would give insight into their perceptions.

Dr. Ziemer asked the Board members to refer any ideas to staff, confirming with **Mr. Elliott** that such would be useful.

Dr. Melius asked what were planned in response to the letter from the three Congressmen discussed yesterday. **Dr. Ziemer** reiterated his desire to discuss a response with counsel or the Department as some of the suggestions made in the letter seemed to be well outside the charge of the Board, but agreed he needed to prepare a response. **Dr. Melius** asked if it would be shared with the Board. **Dr. Ziemer** agreed that it would, indicated that a copy had been provided to the Board members, and asked that anyone with any particular comment on the issue contact him.

Dr. Melius asked if future agenda items could be discussed, noting that the research group should have a report by the next meeting. He reminded the staff of his suggestion yesterday that a presentation be made on the use of the site profiles in dose reconstruction. **Mr. Elliott** asked if **Dr. Melius** would like to see a sampling of dose reconstructions conducted under the site-wide document as well as site-specific documents. **Dr. Melius** agreed and indicated he would leave selection to NIOSH discretion, but would suggest a complex site.

Dr. Melius inquired if there were a way to move forward on the subcommittee issue. **Dr. Ziemer** replied that he and **Mr. Mark Griffon** had done some work on it, and that he had asked **Ms. Homer** to provide him with details on setting up a subcommittee, structure and ground rules. It was agreed it would be a specific agenda item designated as discussion of subcommittee on dose reconstruction reviews.

Mr. Elliott remarked that at some time in the near future the Board would have to identify, from the pool of completed cases, those that meet their sample for assignment. **Mr. Griffon** commented he wasn't sure there was a large enough pool to sample much from at this point, but there were site profiles and other things to be working on.

Dr. Melius asked if it would make sense to have a presentation from NIOSH on their outreach to complement the presentation **Mr. Pete Turcic** had committed to making on the DOL outreach plan. **Dr. Ziemer** suggested that if anything else came to mind, Board members should contact him or **Mr. Elliott** as they would be developing the agenda jointly.

Mr. Griffon asked if it would be possible for Board members to receive a training session on IMBA at night, since they would be provided the software prior to the next meeting. **Dr. Ziemer** observed that training could probably more easily be done in Cincinnati. **Mr. Elliott** offered that any time a Board member traveling through Cincinnati wanted to stop by and have an afternoon available to them for training, they would be accommodated.

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PUBLIC COMMENT PERIOD

Public comment was solicited on both days of the meeting. Public input on the second day included the following.

Ms. Denise Brock
United Nuclear Weapons Workers

Ms. Brock thanked the Board for coming to St. Louis and asked if the Board had discussed coming back to discuss the site profile with claimants. **Mr. Elliott** indicated the Board had not, but NIOSH planned to do so, though he could not give a specific date.

Ms. Brock inquired into discovery by DOE of more Mallinckrodt Chemical worker records in Georgia. **Dr. Richard Toohey** replied that on an ORAU data capture trip to the Atlanta National Archives, more files on Mallinckrodt were found, though he did not know what they contained. They are being reviewed and analyzed and would be incorporated into the TBD if there was anything new in them. **Mr. Elliott** added they were unaware of anything DOE had provided on Mallinckrodt, noting the discovery had been the benefit of NIOSH and ORAU labor. **Ms. Brock** asked if it could be individual personal data or site information or both. **Dr. Toohey** reiterated he did not know what the information was.

Ms. Brock inquired if there is an expected time for completion of either Weldon Spring or Hematite facilities, as neither are listed as up and coming site profiles. **Dr. Toohey** responded that as a result of the St. Louis meeting, Weldon Spring had been moved up on the list for site profile development and commencement was expected after the

first of the year. **Dr. Toohey** indicated he didn't have his list with him, but he didn't believe Hematite was on the drawing board. Noting a desire to be responsive to the Board or the public's interest, he added that could be moved up, especially since those sites did much the same things.

Ms. Brock asked if perhaps a person who had been employed at more than one of the Mallinckrodt facilities might be reviewed for compensability through Destrehan Street employment at the downtown St. Louis site without having to wait for completion of the site profile on other facilities. **Dr. Toohey** replied that could be done.

Ms. Brock inquired if all the telephone interviews for Destrehan Street employees had been completed. **Dr. Toohey** responded that he couldn't say they'd all been completed, but what had been completed were those they felt the files were ready to move into dose reconstruction. Some who had worked at downtown and Weldon Spring had been set aside because the Weldon Spring site profile was not done. Others had some inconsistency or problem they prefer to get corrected before going into interview and dose reconstruction.

Ms. Brock commented that she had seen a dose reconstruction in which Elizabeth Dupree-Ellis was cited, which caused **Ms. Brock** concern as a result of Dupree-Ellis' exclusion of internal dose and **Ms. Brock's** feeling that Dupree-Ellis underestimated things.

Ms. Brock asked if a member of the public could request SC&A to look into off-site exposure relative to Hematite, St. Louis and Weldon Spring residual radioactivity, ground water problems, et cetera. **Mr. Elliott** responded that the contract with SC&A is with the Board as a government entity in which they're given a specific charge, a scope of work against which they are proposing. What **Ms. Brock** is asking is not included in that scope. **Ms. Brock** asked if that meant find other health physicists. **Mr. Elliott** added that money to support the effort would also be necessary.

Relative to dose reconstruction, Ms. Brock expressed concern about the reliance on surrogate co-worker data and on data extrapolated from the site profiles, because these data may be unreliable. In addition, Ms. Brock said that due to cover-ups and altering of records, the dates recorded for badge readings may be incorrect.

Dr. Melius asked if there is a schedule of site profile completions on the web site. **Dr. Toohey** replied it was not on the web site, but it had been provided to NIOSH. **Dr. Melius** asked if it would be possible to put it on the web site. **Mr. Elliott** indicated he could not give a guarantee today, but it would be considered, noting that it was a plan that was being reviewed and evaluated now for feasibility, if it can be achieved.

Dr. Toohey asked to comment to **Ms. Brock's** last observation, noting that every dose reconstruction contains an uncertainty estimate, often very large, which gets run through IREP in the uncertainty on probability of causation. At the 99 percent confidence interval for decision criteria, many errors or inaccuracy in the point estimates are accounted for by including the uncertainty in those values. **Dr. Ziemer** added that many people don't realize that in most cases larger uncertainties help the claimant because it spreads the distribution out more.

Mr. Richard Miller
Government Accountability Project

Mr. Miller invited the Board to consider western New York as a meeting site. He indicated there were plenty of people who would be happy to cooperate with the Board and NIOSH in having either evening sessions or outreach activity to ensure good participation, noting it has one of the largest concentrations of facilities in the country.

Mr. Miller raised the issue of a discussion of how the Board will address policy if people want to have a site profile reviewed. **Mr. Miller** observed this is an opportunity for policy development about what the Board takes in and how inputs get resolved and addressed.

Mr. Miller indicated he was raising for the third time the issue of radon in the Blockson Chemical TBD. **Mr. Miller** reiterated his position on the issue, discussing again the intake of rock phosphate to the final uranium process and whether radon exposure is included.

Mr. Miller reiterated his call for development of a policy with respect to professional standards, describing conflict of interest as too narrow a term. He opined that this should be a Federal

function up front rather than having people identifying things for NIOSH.

Mr. Miller offered that, with respect to the question of evening public comment, it should be figured out in advance whether it would be productive rather than sit in an empty room for two hours and then close the record.

Mr. Miller raised the issue of availability of IMBA to the public. He opined there should be some creative solution to the issue of dealing with proprietary software, and questioned how much creativity had been applied to it at this point. **Mr. Miller** urged consideration of whether it makes sense to have a program relying on proprietary dose reconstruction software inaccessible to the public except with what he called a very high barrier.

Noting that he didn't understand it completely, **Dr. Melius** observed there is a generic issue with a number of AEC sites where there were exposures from other industrial processes as well as the AEC process. Though he didn't understand to what extent it would be policy, legal or whatever, **Dr. Melius** felt a briefing would help the Board understand what is involved in the decision-making regarding the parsing out of exposures, as well as how it affects future dose reconstruction.

Dr. Ziemer indicated **Mr. Miller** had also entered into the public record some related comments, and that the Board members had gotten copies of **Mr. Miller's** written comments on the Biloxi issue.

Dr. Ziemer asked if the problem revolved around the official definition of the facility insofar as it relates to weapons production. **Mr. Miller** remarked it depends who you ask.

Dr. Ziemer observed that at the crux of the matter was that it's defined a certain way and then that gets interpreted. One wonders where the line is exactly. There is the issue of radon–related phosphate, but where does that end as far as what the company was doing, and where does the uranium work begin? Were uranium workers also exposed and is this part of their occupational exposures? **Dr. Ziemer** indicated that **Dr. Melius** had been saying we don't necessarily know what those issues are, either, and perhaps NIOSH has been addressing that or looking at that, and that's been part of the

issue. **Dr. Ziemer** asked **Mr. Miller** if he were perhaps questioning whether the decision had been made and is fixed in concrete and may affect other facilities, as well.

Mr. Miller opined that the issue was what he termed a thought puzzle, noting he had sketched out about five different ways he could draw the line. He noted it was partly a question of health physics, partly engineering and partly a policy call about how to deal with equities for individuals, and reasonable people could differ on it. He offered a belief that it should be aired out and not be decided in an interagency deliberation process.

Mr. Miller observed that in his review of the Mallinckrodt site profile he had found a footnote for a document he'd been searching for for over a year and was pleased to see it footnoted in the site profile. The Eisenbud document was the basis for an article which had run in the *Riverfront Times* and **Mr. Miller** read a portion of it to the Board. **Mr. Miller** thanked NIOSH for producing the document in a transparent way and without need for a FOIA request.

Ms. Brock described some of the methods she has used to locate and contact claimants, and noted that public service announcements and other outreach efforts are useful in alerting claimants and the media to scheduled meetings.

With all further business to come before the Board requiring action in Executive Session, the public portion of the meeting was adjourned.

End of Summary Minutes

I hereby confirm that these Summary Minutes
are accurate to the best of my knowledge.

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Paul L. Ziemer, Ph.D., Chair

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Date